AMENDMENTS TO THE CLAIMS

1. **(Currently amended)** A surface-treating process comprising:

mechanically polishing an inner surface of a vacuum member in the presence of a liquid medium, or a liquid medium and an oxidizing material,

wherein the liquid medium includes no hydrogen atom, ~~and~~

wherein the vacuum member is made of one kind or two or more kinds selected from the group consisting of niobium, titanium, stainless steel, copper, aluminum and iron, and

wherein the liquid medium including no hydrogen atom is a liquid at an ordinary temperature and an ordinary pressure and a saturated hydrocarbon in a molecule of which a hydrogen atom or hydrogen atoms are all substituted with a fluorine atom or fluorine atoms.

2-3. **(Cancelled)**

4. **(Previously presented)** The surface-treating process according to claim 1, wherein the vacuum member is made of niobium.

5. **(Previously presented)** The surface-treating process according to claim 1, wherein the vacuum member is a superconducting accelerating cavity.

6. **((Previously presented)** The surface-treating process according to claim 1, wherein the mechanical polishing is performed in the presence of an oxidizing material.

7. **(Previously presented)** The surface-treating process according to claim 6, wherein the oxidizing material is ozone, a mixture of ozone and oxygen, or hydrogen peroxide water.

8. **(Previously presented)** The surface-treating process according to claim 1, wherein after the mechanical polishing, the inner surface of a vacuum member is subjected to chemical polishing or electrochemical polishing.

9. **(Previously presented)** The surface-treating process according to claim 1, wherein after the mechanical polishing, the inner surface of a vacuum member is subjected to electrochemical polishing using an electrolytic solution including an oxidizing material.

10. **(Previously presented)** The surface-treating process according to claim 9, wherein the oxidizing material is ozone, hydrogen peroxide water or nitric acid.

11. **(Currently amended)** A forming process for a vacuum member comprising:

mechanically forming the vacuum member in the presence of a liquid medium, or a liquid medium and an oxidizing material,

wherein the liquid medium includes no hydrogen atom, ~~and~~

wherein the vacuum member is made of one kind or two or more kinds selected from the group consisting of niobium, titanium, stainless steel, copper, aluminum and iron, and

wherein the liquid medium including no hydrogen atom is a liquid at an ordinary temperature and an ordinary pressure and a saturated hydrocarbon in a molecule of which a hydrogen atom or hydrogen atoms are all substituted with a fluorine atom or fluorine atoms.

12-13. **(Cancelled)**

14. **(Withdrawn)** An electrolytic polishing solution including an oxidizing material and used in electrochemical polishing of a vacuum member.

15-16. **(Cancelled)**

17. **(Currently amended)** A surface-treating process comprising:

(a) mechanically polishing an inner surface of a vacuum member in the presence of a liquid medium, or a liquid medium and an oxidizing material,

wherein the liquid medium includes no hydrogen atom, ~~and~~

wherein the vacuum member is made of one kind or two or more kinds selected from the group consisting of niobium, titanium, stainless steel, copper, aluminum and iron, and

wherein the liquid medium including no hydrogen atom is a liquid at an ordinary temperature and an ordinary pressure and a saturated hydrocarbon in a molecule of which a hydrogen atom or hydrogen atoms are all substituted with a fluorine atom or fluorine atoms; and

(b) electrochemically polishing the inner surface of a vacuum member using an electrolytic solution including an oxidizing material.

18. **(Previously presented)** The surface-treating process according to claim 17, wherein the oxidizing material is ozone, hydrogen peroxide water or nitric acid.

19. **(Previously presented)** The surface-treating process according to claim 17, wherein the oxidizing material is nitric acid.